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(54) **Hybridized semiconductor pixel detector arrays for use in digital radiography.**

(57) A solid state x-ray detector which is a two-dimensional array of individual pixel elements is described. The hybrid semiconductor construction produces detector elements with high spatial resolution ( $< 30$  microns), high sensitivity to the entire x-ray spectrum, and frame rates greater than 1000 Hz. In a biomedical application these arrays provide high quality real time digital radiographic images that are directly coupled to an image processing system for image enhancement and computer aided diagnosis. In an alternative embodiment of the invention, the hybrid construction incorporated into an automated manufacturing process facilitates the real time, nondestructive, x-ray examination of manufactured objects during the production process. Structural defects in inorganic objects under test are identified in real time during the manufacturing process are corrected when feedback signals are generated from the electronic image data generated during the nondestructive test process.

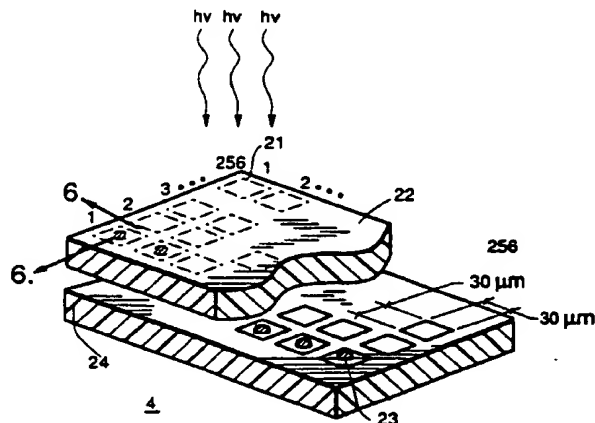


FIG. 5.

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# EUROPEAN SEARCH REPORT

Application Number  
EP 93 30 3719

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.5)
Y	US-A-4 879 464 (IINUMA KAZUHIRO) 7 November 1989 * abstract * * column 3, line 35 - column 4, line 46 * * column 5, line 21 - column 6, line 16 * * column 6, line 29 - line 49 * * figures *	1,5,7-14	G01T1/29
Y	EP-A-0 138 647 (DIGITAL IMAGING CO) 24 April 1985 * page 18, line 1 - page 22, line 31 * * figures *	1,2,5-11,13,14	
Y	US-A-4 415 980 (BUCHANAN ROBERT A) 15 November 1983 * abstract * * column 3, line 21 - column 4, line 14 * * column 5, line 4 - line 44 * * figures *	1,2,6,10-14	
A	EP-A-0 229 497 (FUTURETECH INC) 22 July 1987 * page 3, line 6 - page 4, line 6 * * page 5, line 18 - page 6, line 4 * * page 7, line 15 - page 8, line 31 * * page 11, line 8 - page 15, line 36 * * figures *	1	<p>TECHNICAL FIELDS SEARCHED (Int.Cl.5)</p> <p>G01T</p>
The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 14 September 1995	Examiner Datta, S
<p>CATEGORY OF CITED DOCUMENTS</p> <p>X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document</p>		<p>T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons * : member of the same patent family, corresponding document</p>	

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